

Claims

We claim:

- 1 1. A graphic multi-user interface for resolving conflicts, comprising:
 - 2 a touch sensitive surface;
 - 3 means for displaying a plurality of items on the touch sensitive
 - 4 surface;
 - 5 means for generating a plurality of sequences of touch samples when
 - 6 a plurality of users simultaneously touch the touch sensitive surface, each
 - 7 sequence of samples being identified with a particular user generating the
 - 8 sequence of samples;
 - 9 means for associating each sequence of samples with a particular
 - 10 item, the particular item having an associated state and a policy;
 - 11 generating an event for each associated sequence of samples; and
 - 12 means for determining a decision with respect to a conflict affecting a
 - 13 next state of the particular item according to the events from the plurality of
 - 14 users, the state and the policy.
- 1 2. The graphic multi-user interface of claim 1, in which the state of the item
- 2 includes an owner, an access code, a size, an orientation, a color and a
- 3 display location.
- 1 3. The graphic multi-user interface of claim 1, in which the particular item is
- 2 active when a particular user is touching the particular item.

- 1 4. The graphic multi-user interface of claim 1, in which one particular user
- 2 generates multiple sequences of sample for multiple touches.

- 1 5. The graphic multi-user interface of claim 1, in which each sample
- 2 includes a user ID, a time, a location, an area and a signal intensity of the
- 3 touch.

- 1 6. The graphic multi-user interface of claim 5, in which each sample
- 2 includes a speed and trajectory of the touch.

- 1 7. The graphic multi-user interface of claim 1, in which the policy is global
- 2 when the conflicts affects an application as a whole.

- 1 8. The graphic multi-user interface of claim 1, in which the policy is element
- 2 when the conflicts affects a particular item.

- 1 9. The graphic multi-user interface of claim 1, in which the policy is
- 2 privileged user depending on privilege levels of the plurality of users.

- 1 10. The graphic multi-user interface of claim 1, in which each user has an
- 2 associated rank and the decision is based on the ranks of the plurality of
- 3 users.

- 1 11. The graphic multi-user interface of claim 1, in which the policy is based
- 2 on a votes made by the plurality of users.

- 1 12. The graphic multi-user interface of claim 1, in which the policy is
2 release, and the decision is based on a last user touching the particular item.

- 1 13. The graphic multi-user interface of claim 1, in which the decision is
2 based on an orientation of the particular item.

- 1 14. The graphic multi-user interface of claim 1, in which the decision is
2 based on a location of the particular item.

- 1 15. The graphic multi-user interface of claim 1, in which the decision is
2 based on a size of the particular item.

- 1 16. The graphic multi-user interface of claim 1, further comprising:
2 means for displaying an explanatory message related to the decision.

- 1 17. The graphic multi-user interface of claim 1, in which the decision is
2 based on a speed of the events.

- 1 18. The graphic multi-user interface of claim 1, in which the decision is
2 based on an area of the events.

- 1 19. The graphic multi-user interface of claim 1, in which the decision is
2 based on a signal intensity of the events.

- 1 20. The graphic multi-user interface of claim 1, in which the decision tears
2 the particular item into multiple parts.

- 1 21. The graphic multi-user interface of claim 1, in which the decision
- 2 duplicates the particular item.

- 1 22. The graphic multi-user interface of claim 7, in which the application has
- 2 a global state, and further comprising:
 - 3 allowing a change to the global state only if all times are inactive, no
 - 4 users are touching the touch sensitive surface or any of the plurality of items.

- 1 23. A method for resolving conflicts with a graphic multi-user interface,
- 2 comprising:
 - 3 displaying a plurality of items on a touch sensitive surface;
 - 4 generating a plurality of sequences of touch samples when a plurality
 - 5 of users simultaneously touch the touch sensitive surface, each sequence of
 - 6 samples being identified with a particular user generating the sequence of
 - 7 samples;
 - 8 associating each sequence of samples with a particular item, the
 - 9 particular item having an associated state and a policy;
 - 10 generating an event for each associated sequence of samples; and
 - 11 determining a decision with respect to a conflict affecting a next state
 - 12 of the particular item according to the events from the plurality of users, the
 - 13 state and the policy.